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Inter-Regional Convergence in Russia

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There was no inter-regional convergence in Russia during the 1990s but the situation changed dramatically after 2000. While interregional GDP per capita gaps still persist, the differentials in incomes and wages decreased substantially. Interregional fiscal redistribution has never played a major role in Russia, so understanding interregional convergence requires an analysis of internal capital and labor mobility. The capital market in Russia's regions is integrated in a sense that local investment does not depend on local savings. Also, the barriers to labor mobility have come down. The situation is very different from the 1990s when many poor Russian regions were in a poverty trap: potential workers wanted to leave those regions but could not afford to finance their move. After 2000 (especially later in the first decade), these barriers were no longer binding. Overall economic development, as well as the development of financial and real estate markets, allowed even the poorest Russian regions to grow out of the poverty trap. This resulted in some convergence in the Russian labor market; the interregional gaps in incomes, wages and unemployment rates are now comparable to those in Europe.

Russia's Regions are Finally Converging

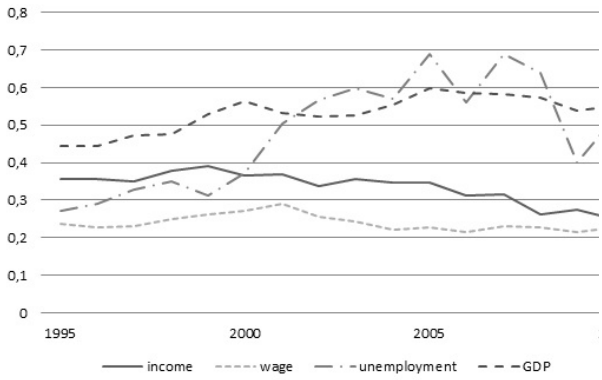
Large interregional differences have always been an important feature of Russia's transition to a market economy. This has been explained by the pre-transition geographical allocation of population and of physical capital that was determined by non-market forces. Soviet industrialization policies often pursued political or geopolitical goals. Even when they reflected economic realities, the economic decision-making was distorted substantially by central planning, price-setting and subsidies. In addition, the allocation of production was intended to serve a different country – the Soviet Union (or even the whole Council for Mutual Economic Assistance countries) rather than Russia alone. Moreover, believing in economies of scale rather than in competition, Soviet planners created many monotowns.[1] These towns, cities or even regions relied on a single industry. Therefore economic restructuring and inter-sectoral reallocation implied not only moving workers or capital between employers in one town, but also required moving workers or capital between cities.

Despite the need for geographical reallocation during the transition to a market economy, the differentials between Russian regions remained high (and even increased!) throughout the 1990s. However, after 2000 (especially later in the first decade) there was substantial convergence in incomes and wages (Figure 1). By 2010, this resulted in reduction

[1] Russian law defines monotowns as town where at least 25% employment is in a single firm. Even now, the Russian government's Program for the Support of Monotowns lists 335 monotowns (out of the total of 1099 Russia's towns and cities) with the total of 25% of Russia's urban population.

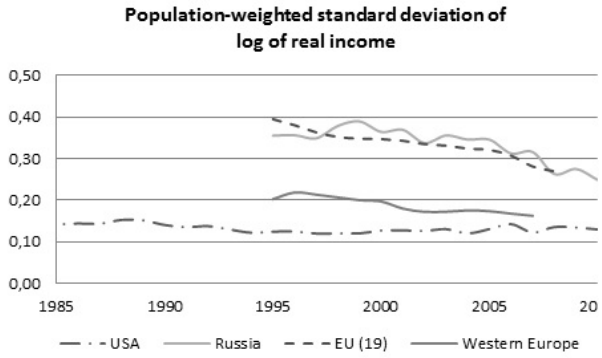
of the inter-regional differences in incomes in line with European levels. In Figure 2, while inter-regional differences in Russia are still substantially above those in the US and Western Europe, they are comparable to those in the EU.

Figure 1. Differences among Russian Regions in Terms of Logarithms of Real Incomes, Real Wages, Unemployment, Real GDP Per Capita



Source: Guriev and Vakulenko (2012).
Note: All variables measured as population-weighted standard deviations.

Figure 2. Income Differentials in Russia, Europe and the US



Note: *For the EU and Western Europe the unit of observation is NUTS-2 region*[2].

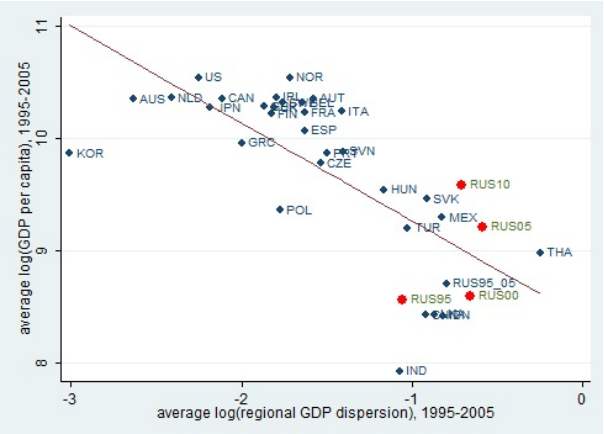
Interestingly, despite income convergence, there was no convergence in GDP per capita among Russia's regions. Inter-regional dispersions in GDP per capita remain high not only by European standards, but also by standards of less developed countries. Indeed, in Figure 3 (next page), Russia is placed in the international context using the data recently developed by Che and Spilimbergo (2012).

Che and Spilimbergo calculate interregional differences for 32 countries in a compatible way and plot them against GDP per capita (averaged out for 1995-2005, in real PPP-adjusted dollars). Their main finding is that that there is a negative correlation between interregional differences and GDP per capita.

Since Russia was not in Che and Spilimbergo's dataset, Guriev and Vakulenko (2012) reproduced their calculations for Russia, both for the 1995-2005 average (as they do for the other countries) but also for the individual years 1995, 2000, 2005 and 2010. It turns out that while Russia was "abnormally uniform" in the early 1990s, it did experience substantial divergence in the late 1990s. There was continuing, albeit weaker, divergence even in the early 2000s – so Russia became "abnormally unequal" given its GDP level. Even though there was some convergence late in the first decade, Russia is still "abnormally unequal". Given the fast economic growth since 2000, Russia should have become substantially "more uniform" – at least given the downward-sloping relationship between income and inter-regional inequality in Che-Spilimbergo's data.

[2] EU (19): Belgium, Czech Republic, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Latvia, Lithuania, Netherlands, Austria, Poland, Portugal, Slovakia, Finland, Sweden, United Kingdom. For EU (19) we consider only those NUTS-2 units for which there is data for each year. Western Europe: Austria, Belgium, Germany, Ireland, Greece, France, Italy, Netherlands, Norway, Portugal, Finland, Sweden, United Kingdom.

Figure 3. Russia's Interregional Dispersion in GDP Per Capita in the International Context



Source: *Che and Spilimbergo (2012).*
Note: The trend line is calculated without Russia.

Why didn't income convergence happen in the 1990s and only start after 2000? Why hasn't GDP convergence taken place? Large interregional differences are consistent with reduced income, wage, and unemployment differentials if the factors of production (labor and capital) have become more mobile while the productivity differences (due to geography, political and economic institutions, and inherited differences in infrastructure) remain in place. Therefore, in order to understand income convergence, an understanding of labor and capital mobility is needed.

Interregional Labor Mobility in Russia

Andrienko and Guriev (2004) studied internal migration flows in Russia in the 1990s and showed that the lack of convergence was explained by a "poverty trap". In general, Russians did move from poorer to richer regions. However, in Russia's very poor regions (in about 30% of the regions hosting about 30% of Russia's population) the potential outgoing migrants wanted, but could not afford, to leave; so for these regions, an increase in income would have resulted in higher rather than lower outmigration.

What changed since 2000? Why did barriers to mobility come down? There are multiple potential explanations: (i) economic growth simply allowed most of Russia's regions to grow out of the poverty trap; (ii) the development of financial and real estate markets reduced the transactions costs of moving therefore reducing the importance of the poverty trap; (iii) the development of capital markets increased capital mobility; (iv) federal redistribution reduced interregional differences.

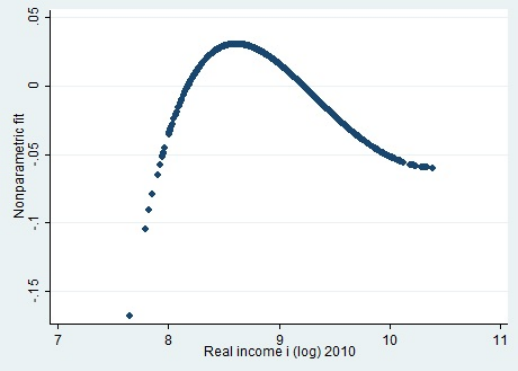
According to Guriev and Vakulenko (2012), federal redistribution played a very minor role, while the other three explanations are consistent with the data. Our analysis of capital flows is, however, limited by the lack of detailed data, but our study of panel data on net capital inflows and investment shows that, first, capital does flow to regions with higher returns to capital and with lower wages and incomes, thus contributing to convergence. Second, investment in Russia's regions is not correlated with savings which suggests that Russia's capital market is not regionally segmented. As our data on capital are limited to the period after 2000, we cannot compare the recent years to those during the 1990s, but at least we can argue that recently, the capital market was functioning well and was contributing to convergence.

It is striking to what extent the poverty trap and liquidity constraints used to be, but are no longer, binding for labor mobility. Figure 4 (next page) is a graphical illustration of the poverty trap. Based on a semiparametric estimation with region-to-region fixed effects it shows the relationship between income in the origin region and migration (both in logarithm). Each dot on this graph represents migration from one region to another in a given year (during 1995-2010). As discussed above, the relationship is non-monotonic. If the sending region is poor, an increase in

income results in higher out-migration; for richer regions, a further increase in income results in lower migration. The peak is at log income equal to 8.7 which amounts to average income equal to exp(8.7) ≈ 6003 in 2010 rubles and 1.02 of the Russian average subsistence levels in 2010. The regions to the left of the peak are in the poverty trap while the regions to the right are in a "normal mode" where liquidity constraints are not a substantial barrier to migration.

While in the 1990s tens of regions were below this threshold (and therefore were locked in the poverty trap), by 2010 only one region was below this threshold. In this sense, overall economic growth allowed Russian regions to overcome liquidity constraints by simply growing out of the poverty trap. We ran additional tests to show that financial development also contributed to relaxing liquidity constraints.

Figure 4. Income in the Origin Region and Migration[3]



Note: results of semiparametric estimation

What Next?

Should we be worried about high interregional differentials in GRP per capita? Not necessarily. In order to ensure inter-regional convergence in incomes and wages, convergence in GDP per capita is not required. As long as barriers to labor and capital mobility are removed, mobility (or even a threat of mobility) protects workers. Therefore, the very fact of remaining large inter-regional dispersion in GDP per capita should not serve by itself as a justification for government intervention (e.g. region-specific government investment).

As reducing barriers to mobility is important for convergence, this is exactly where policies can contribute the most. Developing financial and housing markets and improving investor protection are better policies for reducing inter-regional differences in income; these factors have already reduced income differentials among Russian regions.

We should, however, provide an important caveat. Our analysis was done at the regional level. We therefore do not address the sub-regional level and have nothing to say on the need for town-level government interventions. There may well be many cases where individual towns (e.g. so called mono-towns) are locked in poverty traps. In those cases government intervention may be justified and desirable. Our results show that poverty traps did exist in Russia in the 1990s at the regional level. These may well still exist at the town level even now. We cannot extrapolate the quantitative value of the income threshold we identified for the poverty traps from regional level to the town level but our analysis provides very clear qualitative criteria for government intervention. If the average citizen of a town would benefit from moving out but cannot finance the move (e.g. because his/her real estate is worthless), then the government can and should step in through supporting financial intermediaries that could finance the move. Therefore our analysis is fully consistent with the rationale for the government's mono-towns restructuring program.

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[3] The graph shows the relationship between the logarithm of the real income in the sending region and the logarithm in migration controlling for income in the receiving region, unemployment and public goods in both sending and receiving, year dummies and other factors influencing migration. Moscow and Saint Petersburg are excluded.

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